

REMARKS

Applicants thank the Examiner for the Interview of April 20, 2009. The Examiner indicated that the claimed term “strain” is interpreted broadly to include any movement of a body part, as opposed to the accepted definition of musculoskeletal strain that relates to the stretching of a muscle or other aspect of the musculoskeletal system. The Examiner helpfully suggested that Applicants amend the claims to further clarify the meaning of “strain.” As is known in the art, the musculoskeletal system includes joints, bones, muscles, cartilage, tendons, ligaments, and other connective tissue. Furthermore, a strain with respect to the musculoskeletal system is known to cause stretching within the system, and in extreme cases injury, weakening, and/or overexertion, of which none of these conditions relate only to the movement of individual components of the system relative to other components. Accordingly, Applicants have defined the claimed musculoskeletal strain as “a stretching in a bone, a muscle, a cartilage, a tendon, a ligament, a joint, or a connective tissue of the musculoskeletal system of the patient that results in injury, weakening, or overexertion of a joint or tissue of the musculoskeletal system” by amending independent claim 26 as such.

Support for Applicants’ characterization of “strain” is provided in the corresponding publication of the underlying application. Specifically, paragraphs [0014], [0022], and [0034] differentiate between the claimed musculoskeletal parameters relating to movement and the resultant strain data obtained therefrom, and paragraph [0010] discusses musculoskeletal strains in the context of load analysis. Additional support may be found in paragraphs [0005] and [0053].

No claims have been added or cancelled. Accordingly, claims 26-50 remain in this application.

Rejection under 35 U.S.C. 102(b)

Claims 26, 27, 31-38, and 40-49 stand rejected under 35 U.S.C. § 102(b) for anticipation by U.S. Patent No. 6,205,411 to DiGioia, III et al. (hereinafter “the DiGioia patent”)

As discussed above, Applicants have amended independent claim 26 with respect to the claim terminology “musculoskeletal strains” in order to clarify the claimed invention and further define over the DiGioia patent.

Generally, the present invention relies on using different positions of body members causing strains in muscles and ligaments to obtain resultant strain values. In contrast, the DiGioia patent not only fails to mention strains, as currently defined, but also only refers to movements of body members and positions that can be achieved by these body members. Specifically, in column 7 of the DiGioia patent, reference is made to geometric models of the artificial components, to the movement of the joint, and to the range of motion thereof, however, there is no mention of strain values derived from the movement and the different positions of the artificial components and body members, as is set forth in claim 26.

Alternatively, even if the Examiner continues to attribute a broad reading to claim 26 in view of the DiGioia patent, key claimed aspects are simply not disclosed to substantiate a continued anticipation rejection based upon the DiGioia patent. Specifically, the DiGioia patent fails to disclose, teach, or suggest using a database for storing experimental strain values for different musculoskeletal parameters (such as the size of the femur, the tibia, the range of motion, the different angles between body members, the size of artificial implants, etc.). In the DiGioia patent, body parameters are used to calculate the range of motion after the implantation of an implant, however, nowhere is it described how individual musculoskeletal parameters of a person are used to find experimental strain values in a database corresponding to these individual musculoskeletal parameters and then using these experimental values from the database as individual musculoskeletal strain values for the person. Thus, unlike in the DiGioia publication, using the claimed method, it is unnecessary to have a geometric model of the artificial components or the body components – it is sufficient to determine the individual musculoskeletal parameters to find corresponding strain values in the database.

For the foregoing reasons, Applicants believe that the subject matter of amended independent claim 26 is not anticipated by the DiGioia patent. Dependent claims 28-30 stand rejected for obviousness over the DiGioia patent in view of asserted inherency of the claimed steps. Claims 28 and 39 stand rejected for obviousness in view of the DiGioia patent in view of United States Patent Publication Application No. 2005/0203504 to Wham et al. Claims 27-50, encompassing the claims rejected for obviousness, depend from and add further limitations to amended independent claim 26 and are believed to be patentable for at

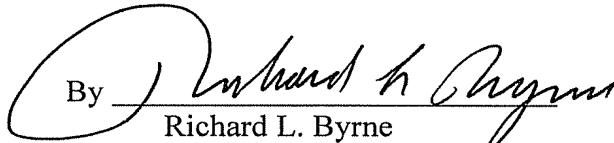
least the reasons discussed hereinabove in connection with amended independent claim 26. Applicants respectfully request that the Examiner withdraw both the anticipation and obviousness rejections.

CONCLUSION

Based on the foregoing amendments and remarks, reconsideration of the rejections and allowance of pending claims 26-50 are respectfully requested.

Respectfully submitted,

THE WEBB LAW FIRM

By 

Richard L. Byrne
Registration No. 28,498
Attorney for Applicants
700 Koppers Building
436 Seventh Avenue
Pittsburgh, PA 15219
Telephone: 412-471-8815
Facsimile: 412-471-4094
E-mail: webblaw@webblaw.com